Center Innovation Fund: JSC CIF

Human-Robot Interaction Reconfigurable Test Environment: Optimizing the Human Interface

Completed Technology Project (2011 - 2012)

Project Introduction

The Human-Robot Interaction Reconfigurable Test Environment (HRI-RTE) integrates a grid-based, reconfigurable test arena and an operator workstation with state-of-the-art displays and controls for commanding small, multi-purpose robots. It will be used to investigate advanced methods of commanding robots, innovative display concepts, improved camera views, methods of feedback to operators for teleoperation, and mitigations for time delays. The reconfigurability of the test environment will be validated by test scenarios that focus on human-robot system performance across a range of HRI technologies, tasks, metrics, and environmental scenarios. The project's focus is on the human interface to the robotic system rather than on robot design.

Anticipated Benefits

N/A

Primary U.S. Work Locations and Key Partners

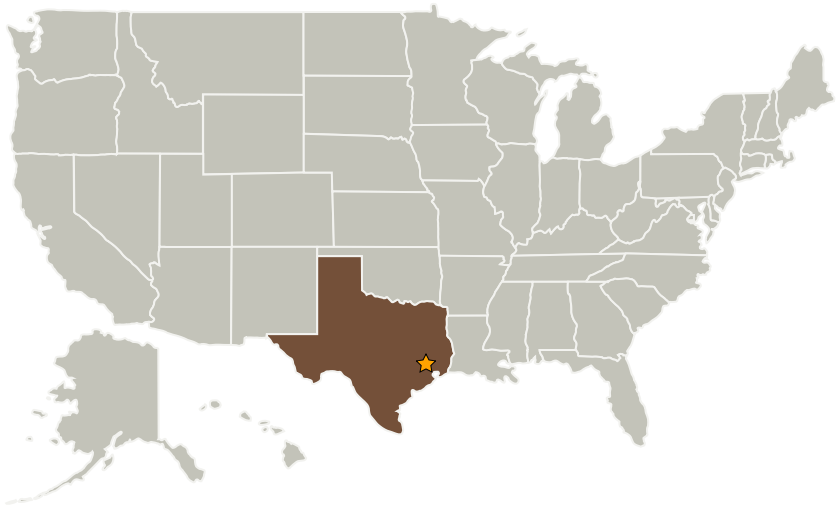

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Table of Contents

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Organizations Performing Work	Role	Type	Location
★Johnson Space Center(JSC)	Lead Organization	NASA Center	Houston, Texas
Lockheed Martin Space Systems(LMSS)	Supporting Organization	Industry	Sunnyvale, California

Primary U.S. Work Locations
Texas

Organizational Responsibility

Responsible Mission Directorate:

Space Technology Mission Directorate (STMD)

Lead Center / Facility:

Johnson Space Center (JSC)

Responsible Program:

Center Innovation Fund: JSC CIF

Project Management

Program Director:

Michael R Lapointe

Program Manager:

Carlos H Westhelle

Project Manager:

Mihriban Whitmore

Principal Investigator:

Mihriban Whitmore

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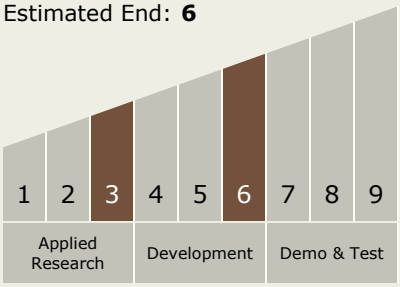
Technology Maturity (TRL)

Start: **3**
Estimated End: **6**



Technology Areas

Primary:

- TX11 Software, Modeling, Simulation, and Information Processing
  - TX11.2 Modeling
    - TX11.2.3 Human-System Performance Modeling